

**REMARKS**

Claims 1, 5-8, 12-15 and 18-19, as amended above, are the only active claims pending in this application. Claims 3 and 4 are canceled. The foregoing separate sheets marked as "Listing of Claims" shows all the claims in the application, each with an indication at its first line showing the claim's current status.

**I. Objections to Claim Form Under 37 C.F.R. § 1.75(c)**

Claims 3 and 4, to which the Office Action objected under 37 C.F.R. § 1.75(c), are canceled, and Applicants respectfully submit that the objection is thereby moot. See Office Action, at page 3, paragraph no. 8, line 3.

**II. Rejections not Based on Prior Art**

The Office Action rejects claims 1 and 8 on the stated basis that these claims are indefinite 35 U.S.C. § 112, second paragraph. See Office Action, at page 3, paragraph nos. 9 and 10.

Applicants respectfully submit that claim 1 is amended to more positively recite the topic separator as performing the separation of messages, and parts of messages into different topics, by estimating the topics of the respective messages and parts of messages based on their words, and then by comparing their estimated topics and their respective time stampings, the specific language being:

an automated topic separator receiving user messages and separating messages according to different topics, wherein the automated topic separator includes a language-model topic classifier that estimates a topic of the user messages and/or parts of the user messages based, at least in part, on their respective word content, and a final topic separator which separates messages or parts of messages based on a spacing between their respective estimated topics and the difference between their respective time stampings, such that messages and parts of messages are separated into different topics when said spacing between their estimated topics exceeds a threshold, the threshold being based, at least in part, on the difference between their respective time stampings, and wherein the threshold, at least in part, is made smaller as said difference increases

Claim 1, currently amended, at lines 5-17.

Support for the above-quoted claim 1 language is found, for example, in Applicants' specification, at page 6, lines 6-28, and at Fig. 6.

With respect to claim 8, Applicants have amended the claim to recite its determining of a message's topic, *vis a vis*, the topic of a previous message, as being based on the estimation of the messages' respective topics obtained from the word content, and based on the difference between their respective time stamps, as follows:

automatically estimating a topic of the received message based on words in the message;

determining if a topic of the message is the same as a previous message, has changed from the a previous message to a previous topic, or is a new topic, based on the difference between the estimated topic of the message and the estimated topic of the previous message, and the difference between their respective time stampings, such that the threshold difference between their respective estimated topics at which the message is determined to be the same topic as the previous message changes with respect to the difference between their respective time stampings

Claim 8, currently amended, at lines 5-15.

Support for the above-quoted claim 8 language, in combination with lines 17-21 of the claim, is found, for example, in Applicants' specification, at page 6, lines 6-28, at page 11, line 17 through page 12, line 3, and at Figs. 6 and 9.

Applicants respectfully submit that the claim 1 and claim 8 language quoted above is plain English, and is readily understandable to persons skilled in the art to which Applicants' invention pertains. Applicants further submit that the amended claim 1 and claim 8 language, read in the context of the entirety of the respective claim, particularly points out and distinctly claims that which Applicants regard as their claim 1 and claim 8 inventions, in a manner that is readily understandable by persons skilled in the art. Applicants therefore respectfully submit that each of these claims 1 and 8, as amended above, is clearly within the guidelines for determining if a claim meets 35 U.S.C. § 112, second paragraph, that are provided in the Manual of Patent Examining Procedure ("MPEP"), at Section 2173.02. ("the essential inquiry ... is whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity"). See also, MPEP § 2173.02, *citing*

*Bancorp Services, L.L.C. v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1372 (Fed. Cir. 2004), cited by MPEP § 2173.02.

Applicants therefore respectfully request that the rejection of claims 1 and 8, under 35 U.S.C. § 112, second paragraph, be reconsidered and withdrawn.

### **III. Rejections Based on Prior Art**

#### **A. Claims 1, 5, 8 and 12**

The Office Action rejects claims 1, 3-5, 8 and 12 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,393,460 ("Gruen"), in view of U.S. Patent No. 6,557,027 ("Cragun"). See Office Action at pages 4-8, enumerated paragraph nos. 11-18.

Claims 3 and 4 are canceled for reasons of form, having nothing to do with the cited art. Applicants respectfully traverse the rejection of base claims 1 and 8, and their respective dependent claims 5 and 12 on the grounds that the combined disclosures of Gruen and Cragun fail to establish *prima facie* obviousness of any of these claims.

With respect to claim 1, the Office Action's position is that "Gruen teaches a message system ... [having an] automated topic separator [which] separates messages ... according to words used in the message ... and which considers time stamping." (internal citations omitted) Office Action, at page 5, lines 6-8.

Applicants have amended claim 1 to more positively recite the limitation of the automatic topic separator separating into different topics messages based, at least in part, on the difference between the messages respective time stamps. The examined claim 1 recited only that that the separating was done "according to the words used in the messages and *which considers time stamping*."

Applicants respectfully submit, for the record, that Gruen does not disclose anything within the broadest reasonable meaning of the examined claim 1 phrase of "which considers time stamping." Gruen describes a method for clustering utterances into topic clusters based on their respective feature vectors. Gruen describes, in considerable detail, a number of clustering algorithms. See Gruen, at column 5, line 7 through column 8, line 39. Applicants submit, however, that

nowhere does Gruen disclose anything, whatsoever, of actually considering or otherwise using the "time stamp" of an utterance, with respect to the time stamp of a previous "utterance," in determining whether the two utterances are of the same or different topics. Absolutely nothing. The Gruen passage cited by the Office Action, namely column 4, lines 48-52, simply mentions "time" as a "feature ... in the utterance," and then at column 4, lines 66-67, makes a sweeping statement that "[t]he feature vector for an utterance has as non-zero weight for every feature present in the utterance." That two-line recital is the entire universe of information relating to time stamps and Applicants' claim 1 "automated topic separator" that can be found in Gruen. Stated differently, Gruen never again mentions use of the time of an utterance, for any purpose.

For purposes of expediting the application, Applicants have amended claim 1 to explicitly recite the "automated topic separators use of the time stamps, as follows:

an automated topic separator receiving user messages and separating messages according to different topics, wherein the automated topic separator includes a language-model topic classifier that estimates a topic of the user messages and/or parts of the user messages based, at least in part, on their respective word content, and a final topic separator which separates messages or parts of messages based on a spacing between their respective estimated topics and the difference between their respective time stampings, such that messages and parts of messages are separated into different topics when said spacing between their estimated topics exceeds a threshold, the threshold being based, at least in part, on the difference between their respective time stampings, and wherein the threshold, at least in part, is made smaller as said difference increases

Claim 1, currently amended, at lines 5-17.

Gruen does not disclose anything, explicitly or inherently, meeting the above-quoted claim 1 "automated topic separator" limitations. The closest teaching in Gruen is the "nearest neighbor evaluation using the on-line k-means clustering algorithm." Gruen, at column 8, lines 11-18. Nowhere in that description is the distance to the nearest neighbor dependent on the "time stamp" of the new utterance, even standing alone, and nowhere in that Gruen description, or anywhere

else in Gruen, is there any suggestion of comparing the time of the utterance with the "time" of its nearest neighbor cluster.

Cragun is not cited by the Office Action as a teaching pertaining to "time stamps." Applicants respectfully submit, for the record, that Cragun does not teach, disclose or suggest anything of using the "time stamp" of a message, in relation to the time stamp of another message, for any use, much less as recited by the claim 1 "automated topic separator" element.

Applicants submit that the combined teachings of Gruen and Cragun therefore lack the automated topic separator element of claim 1, as currently amended (see lines 5-17), because the combination does not disclose, suggest or teach, for any purpose: (i) determining whether to group or separate two messages based on their word content and, at least in part, having the determination based on the difference between the messages' respective time stamps; and/or (ii) setting a threshold for separation based, at least in part, on the difference between messages' respective time stamps.

Applicants therefore respectfully submit that the combined disclosures of Gruen and Cragun fail to establish *prima facie* obviousness of claim 1.

Regarding claim 5, the claim is dependent on base claim 1 and therefore is a combination claim having all of the claim 1 limitations. For the reasons Applicants respectfully presented above, base claim 1 is patentable over Gruen and Cragun within the meaning of 35 U.S.C. § 103(a). Applicants respectfully submit that dependent 5 is therefore patentable over the combination of Gruen and Cragun for at least the reasons its base claim 1 is patentable.

Regarding claim 8, Applicants have amended the claim as follows:  
automatically estimating a topic of the received message based on words in the message;

determining if a topic of the message is the same as a previous message, has changed from the a previous message to a previous topic, or is a new topic, based on the difference between the estimated topic of the message and the estimated topic of the previous message, and the difference between their respective time stampings, such that the threshold difference between their respective estimated topics at which the message is determined to be the same topic as the previous message changes with respect

to the difference between their respective time stampings  
Claim 8, currently amended, at lines 5-15.

Applicants respectfully submit that Gruen discloses nothing meeting the amended claim 8 element of "determining if a topic of the message is the same as a previous message," because Gruen discloses nothing whatsoever of making such a determination based on "the difference between the estimated topic of the message and the estimated topic of the previous message," and "the difference between their respective time stampings," in any manner. Further, Gruen discloses nothing whatsoever of the claim 8 limitation of "the threshold difference between their respective estimated topics" at which the messages are determined to have the same topic, as opposed to having different topics, "changes with respect to the difference between their respective time stampings."

As Applicants have stated above with respect to claim 1, the Gruen passage cited by the Office Action, namely column 4, lines 48-52, simply mentions "time" as a "feature ... in the utterance," and then at column 4, lines 66-67, makes a sweeping statement that "[t]he feature vector for an utterance has as non-zero weight for every feature present in the utterance." Applicants submit that this is the universe of information relating to time stamps and to Applicants' claim 8 "determining if the topic of the message is the same" that is found in, or disclosed by Gruen.

Comparing Gruen to Applicants' claim 8 element of "determining if the topic of the message is the same," Gruen does disclose "[a]scertain[ing] whether a new utterance should start a new cluster." Gruen, at column 7, lines 7-9. This is the passage in Gruen cited by the Office Action as "determining if a topic of the message is the same as a previous message." Office Action, at page 7, paragraph no. 17, lines 6-8. Gruen's cited passage, however, does not disclose or suggest anything meeting the limitations of the claim 8 "determining" element. In fact, reading Gruen in its entirety, the cited passage does not have anything to do with "determining if a topic of a message is the same as a previous message" as recited by claim 8, particularly the amended claim 8. Gruen's cited passage does not have anything to do with Applicants' claim 8 "determining" because, among other reasons, Gruen's only disclosure of "start[ing] a new cluster" is to first identify "if the nearest

neighbor of all the cluster centroids is less than a predetermined threshold  $t$ ," i.e., there are too many clusters bunched together and, if that condition is found, "[t]he system then determines whether to break up any clusters." Gruen, at column 7, lines 60-67.

Therefore, the fact remains that Gruen discloses nothing of using the respective time stamps of "utterance" in determining "whether a new utterance should start a new cluster," and that Gruen discloses nothing of the claim 8 limitation of "the threshold difference between their respective estimated topics" at which the messages are determined to have the same topic, as opposed to having different topics, "changes with respect to the difference between their respective time stampings."

As Applicants state above with respect to claim 1, Cragun is not cited by the Office Action as a teaching pertaining to "time stamps." This same statement of fact applies to Applicants' claim 8. Further, Cragun does not teach, disclose or suggest anything of using the "time stamp" of a message, in any manner, much less in relation to the time stamp of another message, for any use remotely pertaining to determining of the message reflects a new or changed topic.

Applicants therefore respectfully submit that the combination of Gruen and Cragun fail to establish *prima facie* obviousness of Applicants' claim 8.

Regarding claim 12, the claim is dependent on base claim 8 and therefore is a combination claim having all of the claim 8 limitations. For the reasons Applicants respectfully presented above, base claim 8 is patentable over Gruen and Cragun within the meaning of 35 U.S.C. § 103(a). Applicants respectfully submit that dependent 5 is therefore patentable over the combination of Gruen and Cragun for at least the reasons its base claim 1 is patentable.

#### **B. Claim 6**

The Office Action rejects claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Gruen in view Cragun, as applied to claim 5, in further view of U.S. Patent Publication No. US 2001/0028364 ("Fredell"). See Office Action at pages 9-10, enumerated paragraph no. 20.

Applicants first respond that claim 6 is dependent on claim 5 and base claim 1 and, therefore, is a combination claim having all of the claim 1 and 5 limitations. As Applicants respectfully present above, the combination of Gruen and Cragun fail to establish *prima facie* obviousness of base claim 1. They fail because their collected disclosure lack, in any arrangement, the claim 1 "automated topic separator," and further lack any suggestion to combine and/or modify their respective disclosure toward Applicants' claim 1.

Fredell is not cited by the Office Action as a teaching for using the respective time stampings of messages for separating messages by topic. Fredell does not disclose or suggest such a teaching, explicitly or inherently. Fredell relates to network security based on task and access management.

The combined disclosures of Gruen, Cragun and Fredell therefore fail to establish *prima facie* obviousness of base claim 1, from which claim 6 depends.

Applicants respectfully submit, that at least for the foregoing reasons, dependent claim 7 is patentable over the combination of Gruen, Cragun and Fredell.

#### **C. Claims 7, 13 and 15**

The Office Action rejects claims 7, 13 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Gruen in view Cragun, as applied to claim 1, in further view of U.S. Patent No. 6,016,476 ("Maes"). See Office Action at page 10, enumerated paragraph no. 20.

Applicants first respond that claim 7 is dependent on claim 6, which depends from claim 5, which depends from base claim 1. Claim 7 is therefore a combination claim having, among its own limitations, and all limitations of intervening claims 5 and 6, all of the claim 1 limitations. As Applicants respectfully present above, the combination of Gruen and Cragun fail to establish *prima facie* obviousness of base claim 1, because their collected disclosure lack, in any arrangement, the claim 1 "automated topic separator," and further lack any suggestion to combine and/or modify their respective disclosure toward Applicants' claim 1.

Maes is not cited by the Office Action as a teaching for using the respective time stampings of messages for separating messages by topic. Maes does not contain such a teaching.

The combined disclosures of Gruen, Cragun and Maes therefore fail to establish *prima facie* obviousness of base claim 1, from which claim 6 depends. Applicants respectfully submit, that at least for the foregoing reasons, dependent claim 7 is patentable over the combination of Gruen, Cragun and Maes.

Likewise, claims 13 and 15 each depend from claim 12 which, in turn, depends from claim 8. Claims 13 and 15 are therefore each a combination claim having, among their own limitations, and all limitations of intervening claim 12, all of the claim 8 limitations. As Applicants respectfully present above, the combination of Gruen and Cragun fail to establish *prima facie* obviousness of base claim 8. They fail because their collected disclosure lack, in any arrangement, the claim 8 element of: "determining if a topic of the message is the same as a previous message ... or is a new topic, based on the difference ... [between their] estimated topic[s] ... and the difference between their respective time stampings, such that the threshold ... changes with respect to the difference between their respective time stampings." Further, the Gruen and Cragun lack any suggestion to combine and/or modify their respective disclosure toward Applicants' claim 8.

Maes is not cited by the Office Action as a teaching for using the respective time stampings of messages for separating messages by topic. Maes does not contain such a teaching.

The combined disclosures of Gruen, Cragun and Maes therefore fail to establish *prima facie* obviousness of base claim 8, from which claims 13 and 15 depend.

Applicants therefore respectfully submit, that at least for the foregoing reasons, each of dependent claims 13 and 15 are patentable over the combination of Gruen, Cragun and Maes.

#### **D. Claim 14**

The Office Action rejects claim 14 under 35 U.S.C. § 103(a) as being unpatentable over Gruen in view Cragun and in view of Maes and further in view of Fredell. See Office Action at pages 12-14, enumerated paragraph nos. 25-26.

Applicants first respond that claim 14 is dependent on claim 13, which depends from claim 12 which, in turn, depends from base claim 8. Claim 14 is

therefore a combination claim having, among its own limitations, and all limitations of intervening claims 12 and 13, all of the claim 8 limitations.

As Applicants respectfully present above, the combination of Gruen and Cragun fail to establish *prima facie* obviousness of base claim 8. They fail because their collected disclosure lack, in any arrangement, the claim 8 element of: "determining if a topic of the message is the same as a previous message ... or is a new topic, based on the difference ... [between their] estimated topic[s] ... and the difference between their respective time stampings, such that the threshold ... changes with respect to the difference between their respective time stampings." Further, the Gruen and Cragun lack any suggestion to combine and/or modify their respective disclosure toward Applicants' claim 8.

Neither Maes nor Fredell is cited by the Office Action as a teaching for using the respective time stampings of messages for separating messages by topic. Neither Maes nor Fredell, taken one at a time, or any combination, have such a teaching.

The combined disclosures of Gruen, Cragun, Fredell and Maes therefore fail to establish *prima facie* obviousness of base claim 8, from which claim 14 depends.

Applicants therefore respectfully submit, that at least for the foregoing reasons, dependent claim 14 is patentable over the combination of Gruen, Cragun, Fredell and Maes.

#### **E. Claims 18 and 19.**

The Office Action rejects claim 18 and 19 under 35 U.S.C. § 103(a) as being unpatentable over Gruen in view Cragun and further in view of U.S. Patent No. 6,557,027 ("Kanevsky"). See Office Action at pages 14-17, enumerated paragraph nos. 27-29.

Applicants first respond that claim 18 is dependent on base claim 1 and, therefore, is a combination claim having all of the base claim 1 limitations. As Applicants respectfully present above, the combination of Gruen and Cragun fail to establish *prima facie* obviousness of base claim 1. They fail because their collected disclosure lack, in any arrangement, the claim 1 "automated topic separator," and

further lack any suggestion to combine and/or modify their respective disclosure toward Applicants' claim 1.

Kanevsky is not cited by the Office Action as a teaching for using the respective time stampings of messages for separating messages by topic.

Kanevsky does not disclose or suggest such a teaching, explicitly or inherently.

The combined disclosures of Gruen, Cragun and Kanevsky therefore fail to establish *prima facie* obviousness of base claim 1, from which claim 18 depends.

Applicants respectfully submit, that at least for the foregoing reasons, dependent claim 18 is patentable over the combination of Gruen, Cragun and Kanevsky.

Regarding claim 19, this claim depends from base claim 8. Claim 19 is therefore a combination claim having all of its own limitations combined with all limitations of base claim 8

As Applicants respectfully present above, the combination of Gruen and Cragun fail to establish *prima facie* obviousness of base claim 8. They fail because their collected disclosure lack, in any arrangement, the claim 8 element of: "determining if a topic of the message is the same as a previous message ... or is a new topic, based on the difference ... [between their] estimated topic[s] ... and the difference between their respective time stampings, such that the threshold ... changes with respect to the difference between their respective time stampings." Further, the Gruen and Cragun lack any suggestion to combine and/or modify their respective disclosure toward Applicants' claim 8.

Kanevsky is not cited by the Office Action as a teaching for using the respective time stampings of messages for separating messages by topic. Kanevsky does not have such a teaching.

The combined disclosures of Gruen, Cragun and Kanevsky therefore fail to establish *prima facie* obviousness of base claim 8, from which claim 19 depends.

Applicants therefore respectfully submit, that at least for the foregoing reasons, dependent claim 19 is patentable over the combination of Gruen, Cragun and Kanevsky.

**Conclusion**

In view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 1, 5-8, 12-15, and 18-19 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-0510 (IBM Yorktown).

Respectfully submitted,



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